

Sub-mesoscale Ocean Dynamics and
Vertical Transport Experiment (S-MODE)
Return-to-Deployment Airborne Operations
Plan

08/28/2021

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1. S-MODE Project Overview

The Sub-Mesoscale Ocean Dynamics and Vertical Transport Experiment (S-MODE) is one of five investigations that make up NASA's Earth Venture Suborbital-3 (EVS-3) program. This five-year program is funded by and under the direction of the Science Mission Directorate's (SMD) Earth Science Division (ESD) at NASA Headquarters.

The goal of this investigation is to test the hypothesis that submesoscale ocean dynamics make important contributions to vertical exchange of climate and biological variables in the upper ocean. This will require coordinated application of newly developed in situ and remote sensing techniques, and it will provide an unprecedented view of the physics of submesoscale eddies and fronts and their effects on vertical transport in the upper ocean. S-MODE will use measurements from a novel combination of platforms and instruments, along with data analysis and modeling, to test the hypothesis.

The research platforms that will be utilized by S-MODE are shown in the table below. Column 2 (Flight Crews/Qualified Non-Crew) lists the teams that will fly onboard the research aircraft. Column 3 (Mission Support) lists the teams that will provide mission support on the ground at ARC.

Platform	Flight Crews/Qualified Non-Crew	Mission Support	Physical Location (Integration/Mobilization)	Physical Location (Deployment)
NASA AFRC B200	AFRC*, JPL DopplerScatt, UCLA MOSES	ARC ESPO/Code JO**	AFRC (Edwards, CA)	KNUQ (Moffett Field, CA)
NASA LaRC G-III	LaRC, JPL PRISM	ARC ESPO/Code JO**	LaRC (Hampton, VA)	KNUQ (Moffett Field, CA)
TOIL Twin Otter DHC-6	TOIL, SIO MASS	n/a	Grand Junction, CO	KSNS (Salinas, CA)
Autonomous Surface Vehicles (ASVs)***	n/a	n/a	Alameda, CA (Saildrones); Santa Cruz, CA or Half Moon Bay, CA (Wave Gliders)	Pacific Ocean (~200 km offshore)

* ARC employee Michael Stewart has been identified as a potential pilot for the AFRC B200.

** ARC ESPO and Code JO personnel will only require on-site access at ARC for the S-MODE deployment. Travel to integration sites will not be required.

*** Wave Gliders (operated by SIO and WHOI) and Saildrones (operated by Saildrones, Inc.). Wave Gliders will be deployed off of a small research vessel that will launch from either Santa Cruz, CA or Half Moon Bay, CA.

2. Purpose and Scope

The purpose of this document is to describe the S-MODE project plan to mitigate the transmission risk of COVID-19 to/from personnel supporting S-MODE airborne operations and airborne support operations.

These operations are split into four distinct mission phases: site setup, upload, deployment, and download. *Site setup* will occur on site at ARC beginning 9/9/21. The *upload phase*, which will occur on site at NASA AFRC (B200), NASA LaRC (G-III), and Grand Junction, CO (Twin Otter), is nominally scheduled from 9/27/21 - 10/15/21. The *deployment phase*, which will occur on site at NASA ARC is nominally scheduled from 10/18/21 - 11/8/21. After the deployment phase, there will be a short *download phase* after the return transit flights. A detailed mission schedule can be found at <https://espo.nasa.gov/s-mode/calendar> and in Appendix D.

While the S-MODE investigation is a cooperative effort among NASA ARC, AFRC, LaRC, JPL with university and other non-governmental partners that has airborne, shipborne, and in situ components, this document is limited to describing the NASA airborne operations and airborne support operations that will occur at NASA ARC.

Separate safety plans addressing protocols and mitigations for COVID-19 transmission for 1) instrument integration activities at AFRC and LaRC, 2) flight operations onboard AFRC and LaRC aircraft, 3) Twin Otter International, Ltd. (TOIL) flight operations, and 4) Autonomous Surface Vehicle (ASV) operations govern these respective activities.

All safety plans mentioned above that are outside the scope of this document can be made available by request.

This plan is and will continue to be applicable to S-MODE on-site mission operations during Stages 1-3 as defined by [NASA's Framework for RTOW](#).

2.1. Application of ARC Rules and Regulations for Personnel from Other NASA Centers and Universities

When working on center at ARC, all S-MODE participants are required to follow the rules and regulations for work onsite at ARC found in this plan. There are two exceptions to this rule:

1. AFRC and LaRC rules apply for any work that occurs on each center's respective aircraft while these aircraft are at ARC.
2. If a specific RTOW safety rule from another center or participating institution is stricter than the ARC rule, then this rule will supersede the ARC rule for that center or institution's employees during their S-MODE deployment at ARC.

Anyone found in violation of the rules and regulations found in this plan will be subject to expulsion from ARC.

3. COVID-19 Protocols and Mitigations

3.1. Health Monitoring

3.1.1. Approval to fly on the AFRC B200 or the LaRC G-III requires medical clearance from the respective flight center.

3.1.2. All mission personnel (including designated alternates) who plan to travel to ARC for the S-MODE mission, and who fall into any one of the health risk categories listed at <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html> are advised to take extra precautions. A physician's consultation is recommended to understand the risks involved.

3.1.3. Beginning 14 days prior to travel to ARC, and while deployed at ARC, all mission personnel shall conduct a daily self-assessment of their health using the guidelines found at <https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>. Individuals who feel ill shall follow the guidelines found in the COVID-19 Emergency Response Plan (Appendix C). Part of this daily assessment will be to reaffirm that there has been no close contact with someone who is known to be experiencing COVID-19 symptoms or is confirmed to have COVID-19.

3.1.4. Rapid antigen COVID-19 tests will be distributed to all air crew and science crew who cannot maintain a six-foot separation while in flight. Depending on supply constraints, these tests could be utilized daily to ensure there is no infection.

3.1.5. All key S-MODE mission personnel should identify alternate personnel in case of illness (see Appendix D.1), and on-call alternate personnel should be prepared to travel as soon as feasible if called upon.

3.2. Social Distancing and Personal Protective Equipment (PPE)

3.2.1. All personnel traveling in support of S-MODE should review the CDC guidelines for domestic travel during COVID-19 at <https://www.cdc.gov/coronavirus/2019-ncov/travelers/travel-during-covid19.html> and also the best practices for fully vaccinated people found at <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated-guidance.html>

3.2.2. Only essential personnel shall travel for the S-MODE deployment at ARC. Use of the facilities at ARC should be on an as-needed basis and minimized as much as possible. Tables and chairs will be set up on the hangar floor for those who do not need access or do not wish to utilize indoor office spaces. Additional details on utilization of the N248 workspace, including diagrams, can be found in Appendix A.

3.2.3. Current social distancing and PPE guidelines (including masking) at ARC can be found at <https://insideames.arc.nasa.gov/face-mask-use-requirements/>. As this site is not

accessible outside of the NASA firewall, these guidelines, along with any updates, will be disseminated to project personnel.

3.2.4. While on base at ARC, S-MODE mission participants must follow current ARC guidelines regarding social distancing and PPE usage at all times, except while participating in AFRC or LaRC flight operations where six-foot separation cannot physically be maintained. The necessary mitigations for these activities are governed by the safety policies of AFRC and LaRC, respectively.

3.2.5. No S-MODE public events shall occur at ARC. No aircraft or facilities used by S-MODE shall be open to visitors or for tours. In addition, no public events with S-MODE personnel shall be scheduled or organized.

3.2.6. The following PPE and cleaning supplies available on-site at ARC:

- disposable dust masks,
- hygiene supplies (hand sanitizer, soap, paper towels, no-touch trash receptacles, tissues, etc.),
- EPA-approved¹ disinfectant wipes or spray²,
- non-sterile nitrile gloves (for cleaning surfaces),
- face shields/safety goggles

3.2.7. At all times while operations are occurring at ARC, an ARC Earth Science Project Office (ESPO) site manager will be on site and shall enforce the PPE and social distancing rules as described in this plan. Individuals in violation of mission or center rules can be subject to removal from the center. The team shall be briefed on an “if you see something, say something” policy and can report observations to the ESPO site manager.

3.3. Cleaning/Hygiene Protocols

3.3.1. All mission personnel should wash their hands frequently with soap and warm water or use hand sanitizer, especially after being in a public place or after eating, using the restroom, blowing their nose, coughing, or sneezing³. ESPO will ensure that ARC Building 248 is well stocked with liquid hand soap, hand sanitizer, and paper towels.

3.3.2. ARC Code J has augmented the ARC janitorial contract so that there will be increased and enhanced cleaning of commonly touched surfaces. See Appendix B.4 for further details.

3.3.3. All S-MODE personnel shall be supplied with the PPE and cleaning supplies listed in Section 3.2.6 to aid in the cleaning of their personal property and work spaces.

¹ A list of EPA-approved disinfectants for use against COVID-19 can be found at <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>

² At a minimum, the following EPA Reg. No.'s will be available: 777-99, 5813-79

³ <https://www.cdc.gov/handwashing/when-how-handwashing.html>

3.4. COVID-19 Emergency Preparedness/Response

3.4.1. All mission participants must **STAY HOME** if they begin experiencing any COVID-19 symptoms. If personnel begin to feel sick while on base at ARC, they must return to their accommodations immediately. Next steps can be found below in Appendix C - COVID-19 Emergency Response Plan.

3.4.2. QNCs who begin to feel sick while in-flight on the AFRC B200 or LaRC G-III aircraft shall follow the rules for each respective aircraft.

3.4.3. While deployed at ARC, mission participants who have knowledge of being in close contact with another person who is experiencing COVID-19 symptoms or has a confirmed case of COVID-19 shall notify the S-MODE project manager immediately and remain in their accommodations while waiting for further instructions.

3.4.4. ESPO shall monitor the guidance from all federal, state, and local public health offices whose jurisdictions cover ARC and alert mission participants to any changes in guidance.

3.4.5. ESPO shall disseminate a Plan of the Day, which will include any necessary updates regarding COVID-19, center access, local restrictions, etc.

3.4.6. All questions and concerns should be addressed to the S-MODE project manager.

3.5. Facilities

3.5.1. ESPO and Code JO supervisors have contacted ARC Code JCM (Facilities) to ensure that HVAC and potable water systems are in working order in Building N248. Building assessment and action items are forthcoming. See Appendix A for more information on the N248 office plan.

3.6. Training/Required Briefings

3.6.1. Each mission participant deploying to ARC must complete the "COVID-19 and Returning to On-site Work" SATERN training module prior to accessing ARC (COURSE # ARC-003-08). SATERN training certificates will be collected and sent to ARC Code Q (Safety). For participants who cannot get access to SATERN, Code Q will facilitate a special training session.

3.6.2. Each mission participant deploying to ARC must attend a mandatory all-hands safety briefing, which will be conducted in the beginning of October that will cover all aspects of this plan. This briefing will be conducted virtually.

3.6.3. Any additional safety plans and information from other centers will be disseminated as necessary (e.g., S-MODE personnel participating in the integration at AFRC will be given all appropriate materials from AFRC).

3.7. ARC On-site Access Requests

3.7.1. Access to Building N248 at NASA Ames Research Center will be facilitated by ESPO. NASA personnel with PIV badges will be granted physical access to N248, which is equipped with badge readers at each entrance. Non-NASA personnel will be issued visitor badges, which will also operate badge readers at the entrances to N248. This access will be good for the duration of the deployment and will include weekend and after hours access.

3.7.1.1. ESPO shall submit the appropriate NASA Access Management System (NAMS) requests for NASA personnel in possession of PIV badges. Visitor/badging requests will be submitted to NASA Ames Protective Services for all others.

Appendix A. Further Information on Social Distancing Protocols

Building N248 Work Space Layout

Fig. 1 shows the floorplan and configuration for the second floor office spaces in ARC Building N248 that will be utilized by visiting S-MODE mission participants. The circles indicate individual work spaces with the required six foot radius of separation. It should be noted that of the ~20 essential personnel who will support the S-MODE deployment phase, only the four visiting JPL instrument operators are *required* to work in these spaces. This is due to a need to access their computing equipment that will be securely housed in room 240.

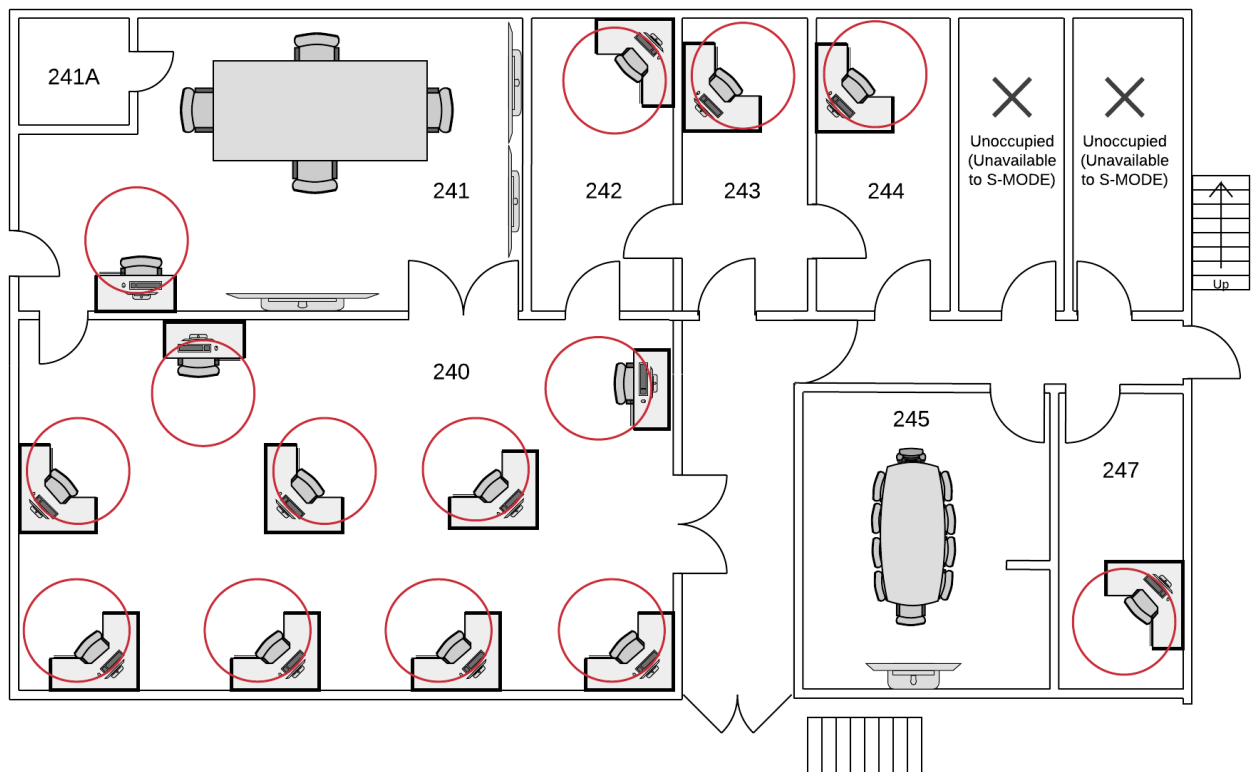


Fig. 1 - ARC Building N248 second floor office space for S-MODE mission operations. The X's indicate rooms that are unoccupied and unavailable for use by S-MODE participants.

N248 Second Floor Work Space

Room	Function
240	DopplerScatt, MOSES, PRISM Office
241	B200 Conference Room
242	B200 Pilots Office
243	ESPO Office
244	LaRC Pilots Office

245	G-III Conference Room
247	Additional Office

The balance of the essential personnel, project management, flight crew, and maintenance crew can have their own work stations on the hangar floor where people can easily spread out (Fig. 2). Due to the moderate weather that is typical at Moffett Field, hangar doors can remain open ensuring fresh air circulation at all times.

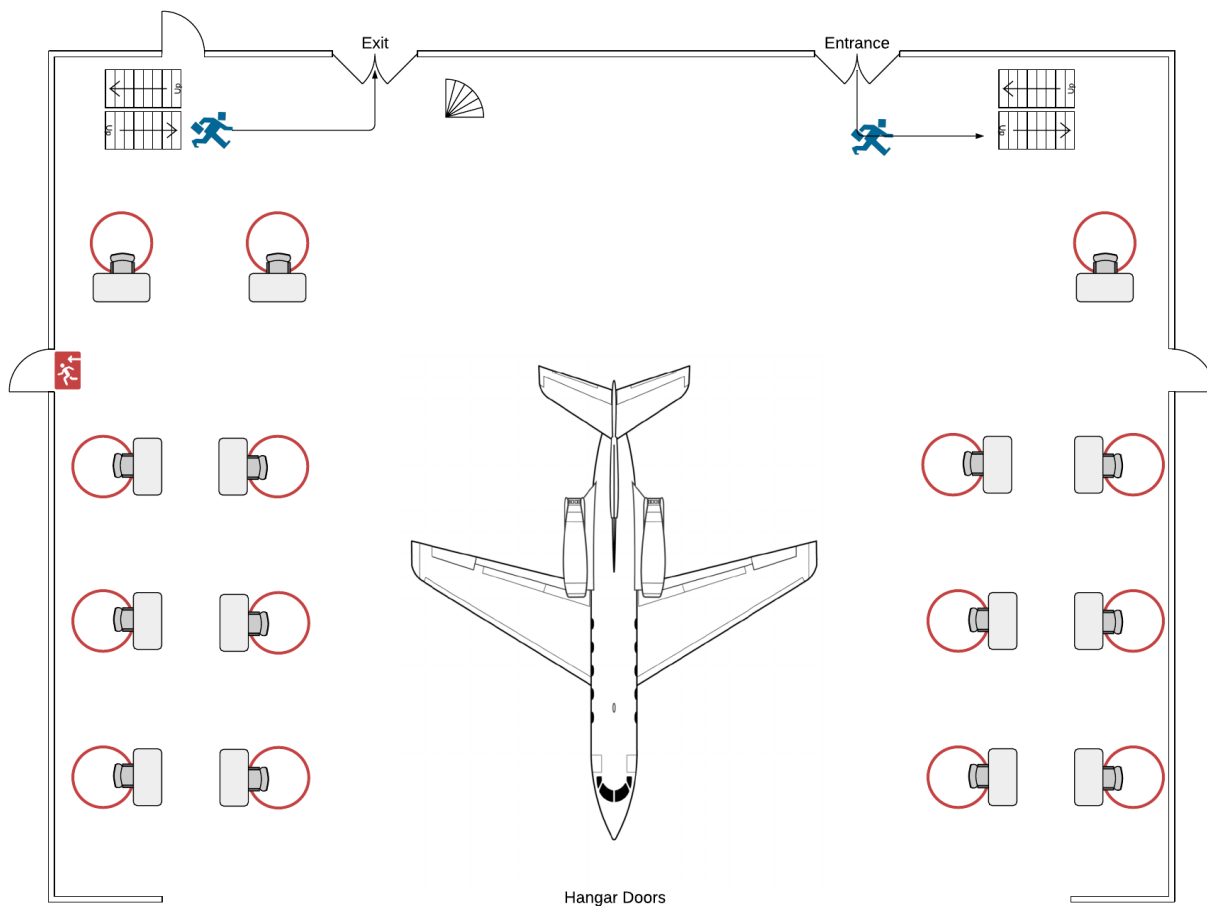


Fig. 2 - ARC Building N248 hangar floor overflow workspace and personnel flow for S-MODE mission operations

Appendix B. Further Information on Cleaning Protocols⁴

B.1. General Cleaning Guidelines

1. Cleaning is everyone's responsibility. Participants need to clean areas they come in contact with, especially if they handle equipment shared with other employees.

⁴ From the ARC COVID-19 Health and Safety Guidance for Employees Returning to On-Site Work, Rev 3

2. Clean all frequently touched surfaces in the workplace, such as workstations, countertops, and doorknobs. Other areas in or around offices include: telephones, arm rests of chairs, light switches (under cabinet and wall), door handles, curtains/blinds, printer/copier touchpads and lids, projector controls, whiteboard markers and erasers.
 - a. For mission operations centers - wipe down all hand-touch surfaces on shared equipment after use.
 - b. For conference rooms - meeting hosts should clean conference tables and hard surfaces such as chair armrests before and at the conclusion of each meeting.
 - c. Do not drink directly from water fountains. Instead, fill personal containers.
3. Use the cleaning agents that are supplied or approved by the center in these areas and follow the directions on the label.
4. Apply spray disinfectants directly on wipes, not directly on electronic equipment or phones.
5. Care must be taken when cleaning screens of any kind, for example computers, telephones and pads. Only follow manufacturers' recommendations for how and what to use to clean screens, they may be sensitive to some chemicals

B.2. Cleaning a Private Work Space

1. Disinfect all surfaces upon arriving for the day, like your desk, chair, phone, keyboard, mouse, pointer, writing utensils and touch screens, if you can.
2. Only use cleaning products supplied or approved by your center.
3. Follow manufacturer's guidance for cleaning and, if no guidance is provided, use alcohol-based wipes or sprays containing at least 70% alcohol.
4. Do not mix your own cleaning products and bring them to your NASA worksite.
5. Read cleaning labels and directions before use.
6. Unplug electronic devices before cleaning.
7. Avoid spraying electronics or keyboards directly with cleaning supplies.
8. Consider removing unneeded items from your work space to reduce handling or contact from multiple people.
9. Continue to disinfect your workspace regularly throughout the day.

B.3. Cleaning a Shared Work Space

1. Avoid using other employees' office equipment, including phones, desks, chairs, writing utensils, keyboards, mouse pointers, etc.
2. Clean and disinfect other employees' office equipment before and after use, if you must use it.
3. Disinfect all spaces, including desks, counters, shared tools and shared equipment regularly throughout the day.
4. Disinfect conference tables, chairs, remote controls, writing utensils, light switches and shared electronics, if you must meet in person.
5. Maintain at least 6 feet of distance between yourself and others and continue wearing cloth face coverings throughout any face-to-face meetings.

B.4. Enhanced Cleaning

1. A janitorial contractor will clean and disinfect some frequently touched surfaces in NASA Ames buildings. Cleaning and disinfection will be conducted more frequently than normal cleaning during the time public health orders require measures to prevent the spread of the disease.
2. The contractor shall clean and disinfect using EPA registered disinfectants effective for COVID-19.
3. Frequently touched surfaces in NASA buildings that will be cleaned by a janitorial contractor include:
 - Entrance doors to all buildings occupied by NASA Employees: Clean and disinfect door handles, both outside and inside of doors.
 - Handrails on stairs: Clean and disinfect hand rails in all buildings occupied by NASA Employees.
 - Elevators: Clean and disinfect call buttons and control panels.
 - Conference rooms: Clean and disinfect hand contact surfaces. Hand contact surfaces include conference table, side tables, hard surface armrests and backs of chairs, and door knobs.
 - Restrooms: Damp/wet mop and disinfect floors, refill all dispensers, clean and disinfect all fixtures (i.e., toilets, urinals, sinks, etc.), clean and disinfect mirrors and mirror framing, walls, partitions, doors, and showers, including trims, framings, kickplates, etc.
 - The contractor shall clean and disinfect using EPA registered disinfectants effective for COVID-19.

Appendix C. COVID-19 Emergency Response Plan

This guidance has been developed in order to conduct the S-MODE Pilot campaign with the highest level of regard to the safety of the participants. However, despite the development and implementation of measures to mitigate the risk of COVID-19 infection, the risk still exists.

C.1. COVID-19 Symptoms

The following symptoms may appear 2-14 days after exposure⁵:

- Fever or chills
- Cough
- Shortness of breath or difficulty breathing
- Fatigue
- Muscle or body aches
- Headache
- New loss of taste or smell
- Sore throat
- Congestion or runny nose
- Nausea or vomiting

⁵ <https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>

- Diarrhea

C.2. Sickness or Confirmed COVID-19 Test Prior to Travel

Starting 14 days prior to travel, all primary and alternate mission participants will conduct daily health self-assessments. If prior to traveling, a participant is experiencing any cold or flu-like symptoms, such as fever, cough, difficulty breathing, or sore throat; or if the participant has been in close contact with someone who is experiencing any cold or flu-like symptoms or who has tested positive for COVID-19, then the participant shall take the following steps:

- Stay at home and self-isolate.
- Put on a mask and avoid contact with others until obtaining further direction from healthcare provider.
- Seek medical guidance from their personal physician. If you've been around someone who has COVID-19, you should get tested 3-5 days after your exposure, even if you don't have symptoms.
- Notify their supervisor and the S-MODE project manager as soon as possible by phone or email, even if on the weekend.

The S-MODE project manager will then:

- Notify line management and the ARC Chief Medical Officer (CMO).

If the participant tests positive for COVID-19, then the previously identified alternate will deploy instead, provided there has been no close contact with the ill participant or with anyone else who has been diagnosed with COVID-19.

C.3. Sickness or Confirmed COVID-19 Test During Deployment at ARC

C.3.1. If Sick or Exposure Response

If a participant begins to experience COVID-19 symptoms or if they have been around someone who has COVID-19, then the participant shall take the following steps:

- **Do not report to work** and self-isolate.
- If at work, **immediately leave the work site** and go back to their hotel to self-isolate.
- Put on a mask and avoid contact with others until obtaining further direction from a healthcare provider
- Seek medical guidance from their personal physician. If COVID-19 testing is recommended, follow instructions in Section C.3.2.
- Notify their supervisor and the S-MODE project manager as soon as possible by phone or email, even if on the weekend.

The S-MODE project manager will then:

- Notify line management and the ARC CMO.

NOTE: If onset of illness occurs while in flight, the applicable AFRC or LaRC flight rules will be implemented.

C.3.2. COVID-19 Testing Support

ESPO will have a supply of rapid antigen COVID-19 tests available for use.

If after consultation with their personal physician, it is determined that the participant should be tested for COVID-19, the participant shall get tested as soon as possible. Contact ESPO for recommendations on local testing locations.

Note that there are no out-of-pocket costs for COVID-19 testing in California. An [insured person can get a COVID-19 test](#) when needed by any provider, in or out of their health plan network, at no cost. If you are uninsured, the government pays for your test.

C.3.3. While Waiting for Test Results

Mission Participant Waiting for Test Result

While waiting for a test result, the participant should follow the guidance found at <https://www.cdc.gov/coronavirus/2019-ncov/if-you-are-sick/steps-when-sick.html> and <https://www.cdc.gov/coronavirus/2019-ncov/if-you-are-sick/isolation.html>

Other Mission Participants

While a participant waits for test results, the S-MODE PI and PM will act on the advice of the ARC CMO, and in consultation with ARC, AFRC and LaRC management, with regard to continuing mission operations.

C.3.4. In the Event of a Confirmed COVID-19 Case During Deployment

Mission Participant with Confirmed Case

If a participant has a confirmed case of COVID-19, the ARC CMO will determine when an individual is cleared to return to work on site at ARC. As this determination affects everyone involved with the aircraft operations, it shall be in coordination with the CMOs from all participating NASA centers.

Contact Tracing

If the participant tests positive for COVID-19, is experiencing symptoms related to COVID-19, or if the Ames Health and Safety Office determines it is advisable, the participant shall make a list of individuals who were within six feet of them more than momentarily, and locations visited in the three days prior to experiencing symptoms. Mission participants will be advised to maintain a log of contacts and location that meet this criteria. This information will be provided to the ARC CMO, who shall initiate contact tracing protocols in coordination with the CMOs from participating NASA centers, if appropriate.

Appendix D. S-MODE Aircraft Schedules

D.1. AFRC

SUN	MON	TUE	WED	THU	FRI	SAT
Oct-3	Oct-4	Oct-5	Oct-6	Oct-7	Oct-8	Oct-9
	<i>DopplerScatt & MOSES Upload</i>				<i>AFRC RDO</i>	
Oct-10	Oct-11	Oct-12	Oct-13	Oct-14	Oct-15	Oct-16
	<i>DopplerScatt & MOSES Upload</i>					
Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Oct-22	Oct-23
	<i>Transit KEDW-KNUQ</i>					

D.2. LaRC

SUN	MON	TUE	WED	THU	FRI	SAT
Sep-26	Sep-27	Sep-28	Sep-29	Sep-30	Oct-1	Oct-2
	<i>PRISM Upload</i>					
Oct-3	Oct-4	Oct-5	Oct-6	Oct-7	Oct-8	Oct-9
	<i>PRISM Upload</i>					
Oct-10	Oct-11	Oct-12	Oct-13	Oct-14	Oct-15	Oct-16
	<i>Test Flights</i>					
Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Oct-22	Oct-23
	<i>Transit KLFI-KNUQ</i>					

D.3. ARC

SUN	MON	TUE	WED	THU	FRI	SAT
Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Oct-22	Oct-23
	<i>Transit</i> <i>B200, G-III,</i> <i>Twin Otter</i>	Deployment				
Oct-24	Oct-25	Oct-26	Oct-27	Oct-28	Oct-29	Oct-30
Deployment						
Oct-31	Nov-1	Nov-2	Nov-3	Nov-4	Nov-5	Nov-6
Deployment						
				<i>Transit</i> <i>G-III</i>		
Nov-7	Nov-8	Nov-9	Nov-10	Nov-11	Nov-12	Nov-13
Deployment	<i>Transit</i> <i>B200, Twin</i> <i>Otter</i>					

D.4. Example Daily Deployment Schedule

Time	Activity/Participants	Inputs	Outcome
2:00pm-3:00pm	Science team telecon to review next day plans	Weather and ocean forecasts, data summary for previous day, ship and plan reports for current day	Determines plan for the next day, and general goals for the next 3-5 days
5:00pm-5:30pm	Preliminary go/no-go for planes. PI, Deputy PIs, instruments leads, pilots	Decisions from science team meeting	Preliminary go/no-go decision. Waypoints and flight times for next day's flights
5:30pm-6:30pm	Flight plan by pilots	Outputs from 5pm go/no-go meeting	Notional flight plans for next day
7:00pm-7:00am	Airplane near real-time data processing by instrument teams	Data from day's flights	Visualization images for previous day data collection
6:30am-7:00am	Finalize morning flight go/no-go decision. PI, deputy PIs, instrument leads, instrument operators	Updated weather forecasts, ship situational report	Pilots contacted for go/no-go decision

7:00am-1:00pm	Flights for selected instruments. Pilots, instrument operators, ESPO, Code JO mission support personnel	Go/no-go morning decision	Morning flights for selected instruments
8:00am-5:00pm	Analysis of previous day data, ship data, satellite data.	NRT data, airborne data from previous day, satellite data, weather and ocean models	Summary situational reports at noon and 5pm
11:00-11:30am	Finalize afternoon flight go/no-go decision. PI, deputy PIs, instrument leads, instrument operators	Updated weather forecasts, ship situational report	Pilots contacted for go decision
1:00pm-7:00pm	Flights for selected instruments. Pilots, instrument operators, ESPO, Code JO mission support personnel	Go/no-go morning decision	Afternoon flights for selected instruments

Appendix E. Acronym List

AFRC	Armstrong Flight Research Center
ARC	Ames Research Center
ASF	Airborne Science Facility
B200	Beechcraft King Air Model 200
BAERI	Bay Area Environmental Research Institute
CDC	Center for Disease Control
CST	Combined Systems Test
DHC-6	de Havilland Canada-6
DopplerScatt	Doppler Scatterometry
EPA	Environmental Protection Agency
ESD	Earth Science Division
ESPO	Earth Science Project Office
EVS-3	Earth Venture Suborbital-3
G-III	Gulfstream III
HQ	Headquarters
HVAC	Heating, Ventilation, and Air Conditioning
ICS	International Chamber of Shipping
IT	Information Technology
JPL	Jet Propulsion Laboratory
KNUQ	Moffett Federal Airfield
KMRY	Monterey Regional Airport
LaRC	Langley Research Center
MASS	Modular Aerial Sensing System
MOSES	Multiscale Observing System of the Ocean Surface

NAMS	NASA Access Management System
NASA	National Aeronautics and Space Administration
NLT	No Later Than
NSRC	National Suborbital Research Center
ORR	Operational Readiness Review
OSU	Oregon State University
PI	Principal Investigator
PM	Project Manager
PPE	Personal Protective Equipment
PRISM	Portable Remote Imaging Spectrometer
QNC	Qualified Non-Crew
RTOW	Return To On-site Work
SIO	Scripps Institution of Oceanography
SMA	Safety and Mission Assurance
SMD	Science Mission Directorate
S-MODE	Sub-Mesoscale Ocean Dynamics and Vertical Transport Experiment
SWOT	Surface Water and Ocean Topography
TOIL	Twin Otter International, Ltd.
UCLA	University of California, Los Angeles
UNOLS	University National Ocean Laboratory System
USRA	Universities Space Research Association
UW	University of Washington
WHOI	Woods Hole Oceanographic Institution